

- 3) provision is made for thermally isolating the reaction chamber from the separation region, thereby ensuring proper heating of a sample and operability of the separation region;
- 4) provision is made for optical detection both in the reaction chamber as well as the separation tube;
- 5) provision is made for venting and otherwise dealing with the gases generated during electrophoresis or during isoelectric focusing;
- 6) the inconvenience of bonding techniques to connect substrates and modules is avoided; and
- 7) embedded electrodes provide for reproducibility and low cost mass production.--

IN THE CLAIMS:

Applicant requests amendment of the claims to comply with the Examiner's conditions for allowance as follows:

Please amend claim 23 as follows:

23. (amended) A device for processing a sample, the device comprising a [unitary] body having formed therein:
- a) a reaction chamber for chemically reacting the sample;
  - b) a separation region for separating components of the sample;
  - c) a transition region connecting the reaction chamber to the separation region, wherein the reaction chamber, transition region, and separation region are formed in and enclosed by the body, the device further includes at least one flow restrictor in the transition region for controlling the flow of fluid between the reaction chamber and the separation region, and the portion of the body defining the transition region has sufficiently low thermal conduction so that the transition region substantially thermally isolates the reaction chamber from the separation region; and
  - d) at least two electrodes coupled to the body, the electrodes being positioned to force the sample to flow from the reaction chamber or from the transition region

into the separation region when a voltage difference is applied between the electrodes;

wherein the device is in combination with and designed to be inserted into an instrument having a heater for heating the reaction chamber and having electrical connections for applying the voltage difference between the electrodes.

Please amend claim 25 as follows:

25. (amended) The device of claim 23, wherein the body comprises a molded polymeric part having the electrodes embedded therein.

Please amend claim 28 as follows:

28. (amended) The combination of claim 23, wherein the instrument further includes optics for detecting separated components of the sample or for optically monitoring the reaction chamber.

Please amend claim 29 as follows:

29. (amended) The device of claim 23, wherein the device comprises:
- a) a first electrode embedded in the body adjacent the reaction chamber;
  - b) a second electrode embedded in the body adjacent the transition region;
  - c) a third electrode embedded in the body adjacent the separation region; and
  - d) a high molecular weight filter positioned in the transition region such that when a voltage is applied between the first and second electrodes, components in the sample are transported from the reaction chamber to the transition region and collected on the filter, and such that when a subsequent voltage is applied between the second and third electrodes, the components collected on the filter are transported into the separation region.

Please amend claim 30 as follows:

30. (amended) The device of claim 23, wherein the portion of the body forming the transition region is narrower than the portion of the body forming the reaction chamber.